



First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER.

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

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With regard to photographs and descriptions of new British machines and those of our Allies, and other information which may be of help to our enemies, it should be noted that the Editor of FLIGHT, in the National interest, submits all matter of this character to the Official Press Censor before publication. Hence our readers will appreciate that many new departures in construction or advances in detail work are necessarily held back for the present rather than the smallest risk should be run of helping those who are so strenuously fighting the Allies for the enforcement of their "Kultured" militarism.—ED.

EDITORIAL COMMENT.

The Silent Anti-Aircraft Worker. Although the general public have heard very little of the anti-aircraft service, which has been in active being from soon after the commencement of the war, the members of this silent corps have well and honourably served the nation's interests in the work which has been allotted to them in the great general scheme for frustrating the many vicious machinations which have emanated from the Germans since they started their great fight to enforce upon the world their much vaunted "Kultur." The Anti-Aircraft Service is practically voluntary, as the pay of an A.B. seaman can be hardly regarded as adequate remuneration for the class of man joining up with this corps, and the members, who amongst other more or less thankless tasks, man the searchlight stations

and the gun stations, are themselves but little in the limelight. The members are in the main professional and business men, this class comprising fully eighty per cent. of the personnel. Under the circumstances it will be readily appreciated that difficulties may easily arise in organising their duties so that, whilst they are serving the nation, with very little hope of any acknowledgment in the future, members may still be in a position to keep their own concerns moving along. Hitherto this difficulty has been met by giving a certain amount of option to the recruits when they join, they having the choice of selecting day or night duty, or alternate day and night duty. Bearing this broad principle in mind, the regulations were so drafted as to reasonably facilitate the members carrying on their ordinary business and occupation with but very little interference, at the same time enabling them to do their "bit" by their anti-aircraft work. The importance of making the conditions as lenient as possible may be gauged by the avocations of those who chiefly constitute the service, viz., city men, barristers and solicitors, business directors, artists, &c. With that object in view the men, who, although in nearly every case of over military age, are still fully capable of undertaking work with a unit of the character of the Anti-Aircraft Corps, had their hours of duty split up into watches of four hours. A large proportion by selecting night as the period for their duty and receiving instruction in gun work and Morse signalling during the day, besides attending drills, have thereby released an appreciable number of men able to go to the front who otherwise would have had to undertake this anti-aircraft work. At the same time it has enabled the members to look after their own affairs without unnecessary strain. All this is to be changed now under a re-organisation scheme which is in force as from April 1st. The Corps is now to be divided into two sections, viz.: (A) a full-time section, restricted to those who are able to give their whole time to the work; and (B) a half-time section, restricted to those who are only able to give a portion of their time for these duties.

At first glance this would appear to carry with it all that is desirable for the service, but a very important variation of the original conditions of the Corps has been brought in, viz., instead of the watches during the summer months being four hours they are to be six hours—a change which in all probability will compel quite a number of the present members of the Corps to retire from their self-imposed work, and in addition to this

increase in hours, the prodigal pay of an A.B. hitherto pertaining is to be reduced by half, a procedure which opens up a very wide field for criticism. Each member has received notice that, in the event of his not desiring to continue in the service under these conditions, he is to notify the fact to the officer of his station. Although they will not by resignation forfeit their uniform grant, it is specified that the uniform must not be worn. At least this seems a somewhat unfair position in which to place a number of very valuable men, who more or less will now be between the devil and the deep sea in their choice. Finding it impossible, as no doubt many will, to extend their duties to the increased period, a difficulty which the original regulations were framed to avoid, they in honesty will feel that they are compelled to resign, in spite of all the time—and, incidentally, money—which they have expended in doing their duty for the country. Yet being no longer permitted under these circumstances to wear their uniform, they may quite naturally be victims of the ignorant, who will be wondering why, having once been in the uniform of their country, they should suddenly cease to wear this badge of honour. It may be very

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THE ROLL OF HONOUR.

THE following casualties in the Royal Flying Corps attached to the Expeditionary Force have been officially notified by the War Office:—

Under date March 26th:

Wounded.

Capt. E. L. Conran, 21st Lancers and R.F.C.
Capt. H. M. L. Mansfield, R.F.A. and R.F.C.

Under various dates:

Previously reported Missing, now reported Prisoners of War.

Second Lieut. M. R. Chidson, R.G.A. and R.F.C.
Second Lieut. T. E. H. Davies, K.R.R.C. and R.F.C.
Lieut. G. N. Humphreys, R.F.C.
Lieut. G. W. Mapplebeck, Liverpool Regiment and R.F.C.
Second Lieut. D. C. W. Sanders, R.F.A. and R.F.C.

difficult indeed to find a class of man who can be satisfactorily substituted for the work which members have hitherto done, other than much younger men who should unquestionably be at the front. Therefore we think, with every deference to those who have found it necessary to change the order of things in connection with the Anti-Aircraft Service, that if it be at all possible they should reconsider their decision, and at least allow those who have honourably carried out their duties in the past to remain in the service of the country under the conditions under which they were originally enrolled, whilst new recruits could join up under the revised conditions. It would surely be possible even then to have various stations which would be entirely composed of the six-hour men and others of the four-hour men; and if this be impossible, we do not see that there is any insuperable difficulty in arranging even for six-hour and four-hour men to work at the same station, as each would have it clearly before him that he is carrying out the operations he undertook when he joined up to do his bit during the present war. In this section of the community there are no Trade Unions.

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Undated : Wounded.

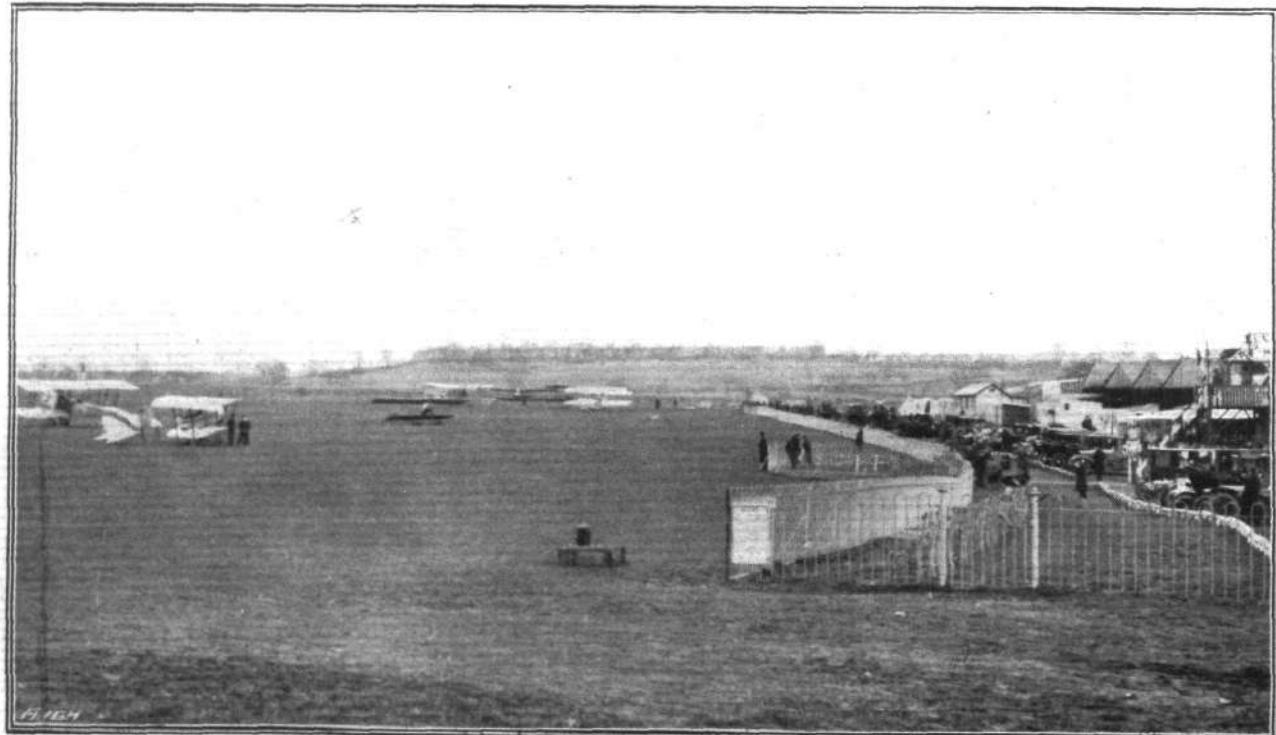
Lieut. C. H. Stringer, 5th (Royal Irish) Lancers and R.F.C.

Under date March 18th:

Accidentally Killed.

534 1st Class Air Mechanic W. Barker.
582 Corporal A. Bowyer.
589 1st Class Air Mechanic G. Cook.
194 Flight-Sergeant J. Costigan.
1192 2nd Class Air Mechanic A. Cuff.
872 1st Class Air Mechanic A. Morgan.
1934 1st Class Air Mechanic S. Tugwell.

It has been officially intimated by the Admiralty that after exhaustive inquiries and many questionings of captured German flying officers, it is believed that Flight Lieut. E. Gordon Riggall, of Grimsby, was shot down and killed. It will be recalled that Flight Lieut. Riggall was reported missing after the raid on the Ostend-Zeebrugge-Bruges district, on February 16th.



HENDON 1915 SEASON OPENS.—A view of the car enclosure, and some of the aeroplanes on the aerodrome.



The Flags of the Allies at Hendon.

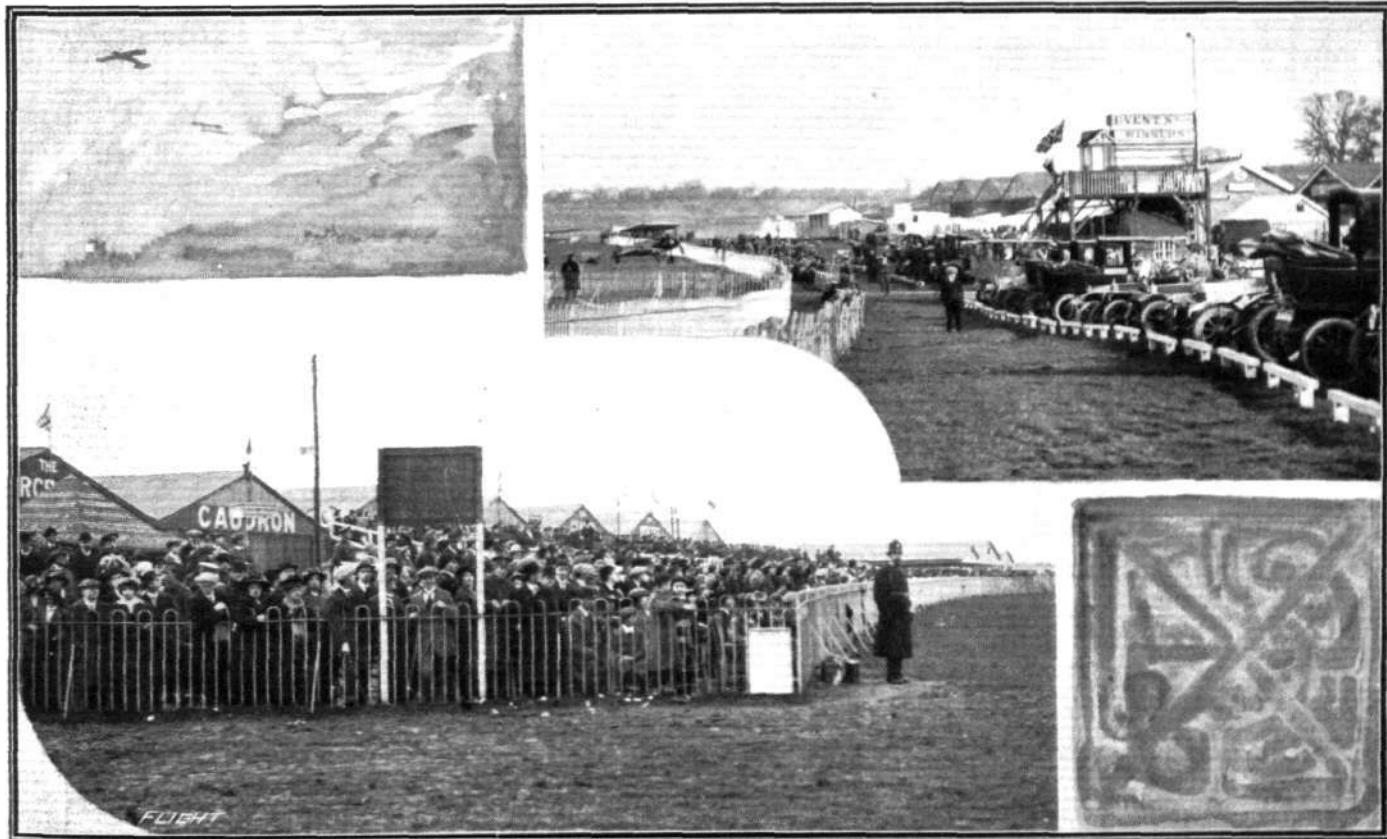


"FLYING as usual" is apparently once more to be the motto up at Hendon, judging by the first of the weekly meetings for 1915 held during the Easter holidays. Unfortunately, the Clerk of the Weather decided to have "weather as usual," so that conditions were hardly as pleasant as might have been wished, especially on Saturday, when flying was completely off owing to the wind and rain. Sunday and Monday, however, made up for this disappointment in every way, on both these days Hendon looking something like its old self. The band played "as usual"; the megaphone man announced events "as usual"; and the visitors took tea, &c., "as usual," so that there is every promise of these meetings achieving in the future their "success as usual."

On Friday the wind was in the neighbourhood of 30 m.p.h., so that flying was practically impossible. In

spite of this, however, M. Osipenko came out on the 50 h.p. G.-W. school 'bus and made a daring, although short, flight. Later on, C. W. Graham ascended on "Lizzie," and put up a really magnificent performance 'midst wind and rain. A downpour of rain then put the stop on further airwork until about 6 p.m., when the weather cleared a bit, and H. Hawker arrived from Brooklands on a new Sopwith tractor biplane. Instead of alighting at once, he continued round and about over the aerodrome for some time before landing, just by way of formally completing an hour's flight for Admiralty purposes.

As previously mentioned, Saturday turned out too bad for flying, whilst Sunday, although nice and fine, had a turn of stiff wind about, a change which brought in a good many visitors. The feature of this afternoon's



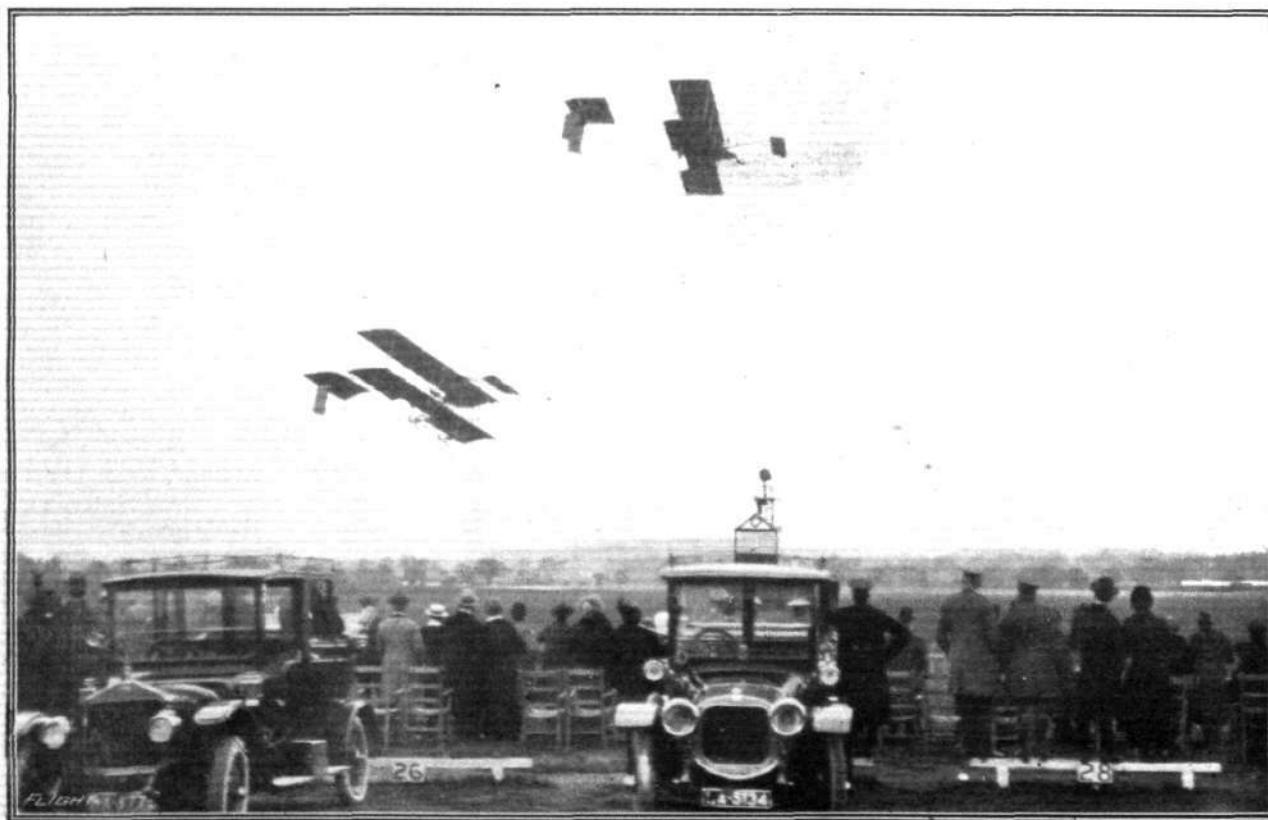
HENDON 1915 SEASON OPENS.—The crowd in the popular enclosures, and a corner of the motor car paddock.



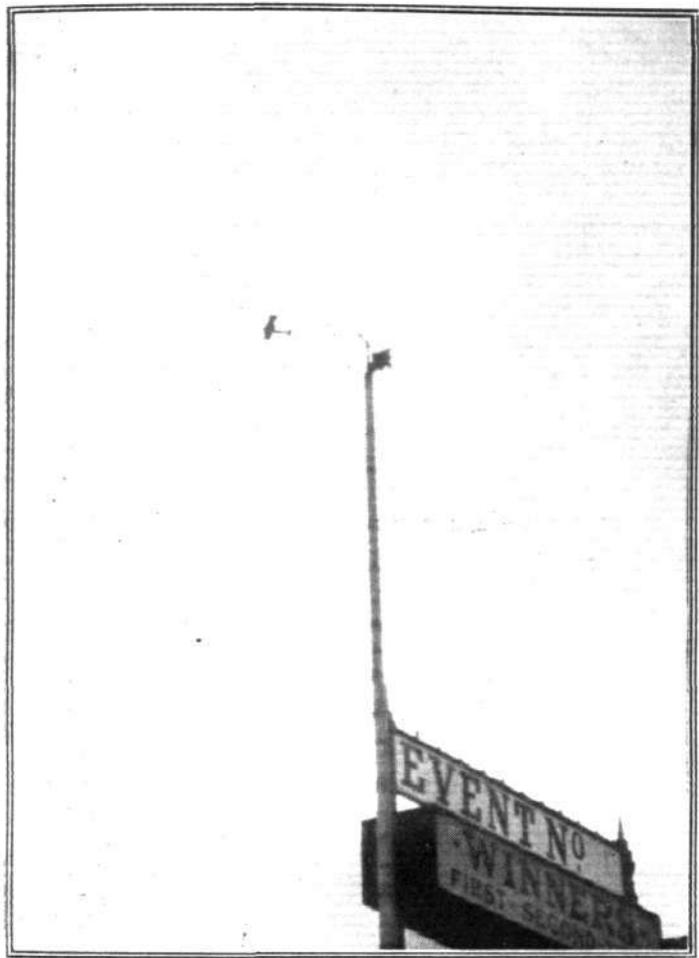
HENDON 1915 SEASON OPENS.—The machines lined up on Easter Monday for the first race at Hendon since the commencement of the war.

flying was C. W. Graham's splendid exhibition, with his 50 h.p. G.-W. tractor biplane "Lizzie," on which he put in various stunts, such as exceedingly sharp spirals and steep dives. To watch him it did not seem possible that it was only a short time ago that he taught himself to fly on the handy little tractor. Great things should naturally follow a pilot with such an air-touch. M. Osipenko was next out on one of the 50 h.p. G.-W. school biplanes, whilst Marcus D. Manton was in charge of the new type 70 h.p. (Gnome) G.-W. biplane. This

latter machine somewhat resembles the Henry Farman, and is to all intents and purposes a large edition of the 50 h.p. G.-W. bi-rudder school 'bus, with the main difference that the front elevator is dispensed with, and a neat *nacelle* fitted. It is a remarkably good flyer and weight-carrier, as witness several successful flights with three up to its credit. J. S. B. Winter, who for some time past has been an instructor at the G.-W. school, blossomed out as a very creditable exhibition flyer on the 50 h.p. G.-W. 'bus. Later in the afternoon, the



HENDON 1915 SEASON OPENS.—Mr. Barrs leading in the Six Laps Race, which he won.



HENDON 1915 SEASON OPENS.—Mr. Graham flying "Lizzie" in half a gale of wind on Good Friday. Mr. Graham was the only one to make a high flight.

visitors witnessed the commencement of school work, which in itself has much to interest.

Easter Monday, however, was the great day. Though rather dull, the wind had dropped considerably, and a goodly crowd of spectators, including a fair sprinkling of khaki and navy blue, turned up. The cheaper enclosures especially were well filled. At about 2 p.m., E. Baumann, of the Ruffy-Baumann school, made a start on the 60 h.p. Caudron, and gave the first exhibition. He was followed shortly after by J. S. B. Winter on one of the 50 h.p. G.-W. 'buses, and then Marcus D. Manton put up a fine twenty-minute flight on his old favourite, the bi-rudder 'bus, executing many of his original spasms—spirals, switchbacks, and tail-wags. The next to ascend was M. Osipenko, and then many old Hendon habitués were agreeably surprised to hear the megaphone man announce that Mr. A. E. Barrs was taking a turn on a 50 h.p. G.-W. biplane. This was his first piloting since his accident some time back, and during the long flight he made he certainly demonstrated that he had lost none of his old skill.

Then came an exhibition flight by C. W. Graham on "Lizzie." There was only one part of Mr. Graham's work that did not over please us, and that was his steeply banked turns near the ground. Impressive, certainly, but —.

Winter next made a very high climb on the G.W. 'bus, whilst Manton started a series of passenger flights—Mars being very much in evidence—on the 70 h.p. biplane. What was perhaps the star turn of the afternoon then took

place, W. Roche-Kelly going up on the 50 h.p. Beatty blinkerless biplane (Wright type), and performing some marvellous stunts. He banked the machine up to nearly 90°, made right- and left-hand spirals, of very small diameter, and various other evolutions in such a manner that when he descended he received a well-deserved ovation from the spectators. This applause, by the way, was quite spontaneous, which shows that Hendon visitors are quite capable of appreciating good flying when they see it. Anyway, on this occasion they were quick in appreciating the excellent combination of man and machine.

A private speed handicap over six laps of the aerodrome, a distance of about 12 miles, was then flown, in which four competitors took part. These, with their handicaps, were:—M. Osipenko, 50 h.p. G.-W. biplane (2 mins. 55 secs.); A. E. Barrs on a similar machine (2 mins. 27 secs.); Marcus D. Manton with a passenger on the 70 h.p. G.-W. biplane (25 secs.); and C. W. Graham on the G.-W. tractor biplane "Lizzie" (scratch). Although the handicapper (Mr. J. H. Ledebroer) was handicapped himself by not knowing accurately the respective speeds of the competing machines, the race produced an excellent finish. Barrs, who flew in quite his old style, obtained the lead on the second lap, and maintained this position throughout. Graham, whose first efforts at pylon racing were most successful, only just failed to obtain second place from Osipenko, but succeeded in passing Manton, who had to take fourth place. Barrs was awarded a silver medal to commemorate the event, whilst the others received bronze medals. After



HENDON 1915 SEASON OPENS.—The new Grahame-White "pusher" in flight.

the race more passengers were taken up, and school work commenced. The G.-W. circuit tractor, piloted by Manton, also went for a turn in the air, flying remarkably well.

All things considered, the Easter meeting must be written down in every way a success, and the London Aerodrome Co. is to be congratulated on their first 1915 attempt at "flying as usual." There is no reason why

future meetings should not become just as popular, if not more so, as they were of old, for it cannot be denied that owing to the aeroplane having taken such a hugely prominent part in the present war, the "man in the street" is now really interested in the new arm. It is to be hoped, however, that at future meetings more of the other "tenants" machines will be seen competing.



AIRCRAFT WORK AT THE FRONT.

OFFICIAL INFORMATION.

THE following despatch from Wing-Commander A. M. Longmore, R.N., was issued by the Admiralty on the 1st inst. :—

"I have to report that this morning Flight Sub-Lieutenant Frank G. Andreae carried out a successful air attack on the German submarines which are being constructed at Hoboken, near Antwerp, dropping four bombs.

"Also Flight Lieutenant John P. Wilson, whilst reconnoitring over Zeebrugge, observed two submarines lying alongside the Mole, and attacked them, dropping four bombs, with, it is believed, successful results.

"These officers started in the moonlight this morning. Both pilots returned safely."

In the despatch dated March 30th from an "Eyewitness" present with the British General Headquarters, there was the following :—

"On Friday (26th) five bombs were dropped on Essars from a German aeroplane, one man being wounded. The hostile artillery fire was again heavy in places. Saturday, the 27th, was also marked by activity by the enemy's airmen, who dropped bombs on Sailly, killing two men. A Zeppelin was seen at night heading north-eastwards. On Sunday, the 28th, bombs from German aeroplanes were dropped near Estaires and Hazebrouck, with but small results in each case."

In the despatch dated April 2nd, and issued on Sunday, there was the following :—

"On Monday, the 29th, there was an exchange of shell fire round Ypres, and the enemy's guns were active in front of many points on our right centre. During the night several hostile aeroplanes flew over our lines. Bombs were dropped on Bailleul and near Estaires and Merville, without, however, doing any damage. On Tuesday some bombs were dropped near Bethune, but no casualties were caused."

In the report from Sir John French, dated Monday last, there was the following :—

"The situation still remains quiet on our front. A change in the weather has limited the possibilities of activity on the part of our airmen."

In the afternoon *communiqué* issued in Paris on the 30th ult. there was the following :—

"A German aeroplane dropped bombs on Rheims.

Two persons were wounded. One projectile fell on the apse of the cathedral."

In the evening *communiqué* of the following day it was noted :—

"Our aviators, in the course of flights at night on the 30th, dropped twenty-four bombs on stations and enemy bivouacs in the Woevre, in Champagne, in the Soissons district, and in Belgium.

"In the daytime on the 31st the maritime station of Bruges, and the aviation camp of Gitz were successfully bombarded."

In the afternoon *communiqué* of the 1st inst. there was the following :—

"The Belgian aviators, on the night of the 30th, bombarded the aviation camp of Handzaeme and railway junction of Cortemarck."

In the evening *communiqué* of the same day it was stated :—

"To the south of Dixmude Aviator-Lieut. Garros brought down an Aviatik aeroplane by machine-gun fire.

"In the region of the Aisne another German aviator was brought to the ground by the French aviator Navarre."

In the afternoon *communiqué* issued on the 2nd inst., there was the following :—

"French and Belgian aeroplanes dropped about thirty bombs on the aviation camp of Handzaeme."

In the evening *communiqué* of the same day it was stated :—

"At seven o'clock this morning, east of Soissons, a German aeroplane was brought down in our lines, being the third in twenty-four hours.

"A bombarding flying squadron dropped thirty-three bombs on the huts and aviation sheds and the station at Vigneulles (Woevre). Most of the projectiles fell squarely on the objectives. Our aeroplanes were very violently cannonaded at close range. Three of them returned with large rents in their wings. The others had their canvas pierced by shrapnel bullets. None of the aviators was hit. All the machines returned to our lines without accident."

In the afternoon *communiqué* issued on the 3rd inst., there was the following :—

"The German aeroplane which was brought down yesterday morning had just dropped bombs on Rheims.

The machine caught fire on touching the ground, but the two aviators were unhurt, and were taken prisoners."

In the afternoon *communiqué* issued on the 5th inst., there was the following:—

"The French military authorities have received precise information on the result of the bombardment carried out in Belgium on March 26th by British military aircraft. These results are as follows:

"An airship shed at Berghen-Sainte-Agathe was seriously damaged, as was the airship in the shed. At Hoboken the Antwerp shipbuilding yard was set on fire, and two submarines were destroyed, while a third was damaged. Forty German workmen were killed and sixty-two wounded."

In a semi-official statement issued in Petrograd on the 31st ult., it was stated:—

"Near Jedwabno we brought down an enemy aeroplane, which fell between the opposing lines of trenches. The aviators, both the officer and his mechanic, were taken prisoners. During the last few days the German

THE BRITISH

Royal Naval Air Service.

The following announcement was made by the Admiralty on the 29th ult.:—

The undermentioned Acting Flight-Lieutenants and Probationary Flight Sub-Lieutenants have been confirmed in the rank of Flight Lieutenant, with original seniority, and reappointed to the "President," additional, for R.N.A.S.; to date as stated. J. R. W. Smyth Pigott; Feb. 25th. C. M. Murphy; March 19th. G. E. Livock, W. G. Moore, W. S. Newton-Claire, C. B. Dalison, T. V. Lister, and P. Legh; March 27th.

Probationary Flight Sub Lieut. L. H. Hardstaff, to the "President," additional, for Central Flying School, Upavon. To date March 29th.

J. P. Curwen entered as temporary Sub-Lieutenant, R.N.V.R., with seniority March 27th, and appointed to the "President," additional, for duty with R.N.A.S. To date March 27th.

The following appeared in the *London Gazette* issued on the 30th ult.:—

Lieut. (temporary Capt.) J. D. Mackworth, R. W. Surrey Regt., to be temporary Major whilst employed as a Squadron-Commander, Naval Wing, Royal Flying Corps. March 18th.

The following announcement was made by the Admiralty on the 31st ult.:—

Temporary commissions have been granted as follows: J. Dunville, as Flight Lieutenant, with seniority of March 30th; C. H. Meares, as Lieutenant-Commander, R.N.V.R., with seniority of March 30th; F. A. Bumpus, as Lieutenant, R.N.V.R., with seniority of March 1st; F. H. M. Savile, C. Suckling, H. Dodd, H. W. Trefusis, P. Garton, P. L. R. Fraser, A. G. Innes, B. H. N. H. Hamilton, G. McAlpine, E. R. Peal, J. W. Collinson, J. S. E. Townsend, and R. J. P. Briggs, as Lieutenant, R.N.V.R., with seniority of March 30th, and all appointed to "President," additional, for R.N.A.S.

Sub-Lieut. W. S. Galpin promoted to the rank of Lieutenant, with seniority of March 30th.

Temporary Sub-Lieut. (R.N.V.R.) K. C. Cleaver, transferred to R.N.A.S. as Probationary Flight Sub-Lieutenant, with seniority of March 30th, and re-appointed to "President," additional, for R.N.A.S.

J. P. Coleman, entered as Probationary Flight Sub-Lieutenant, and appointed to "President," additional, for R.N.A.S. Mar. 19th.

E. S. C. N. de Grey, promoted to the rank of temporary Sub-Lieutenant, R.N.V.R., with seniority of March 30th, and appointed to "President," additional, for R.N.A.S.

The following announcement was made by the Admiralty on the 1st inst.:—

P. L. R. Fraser granted a temporary commission as Lieutenant, R.N.V.R., with seniority of March 30th, and appointed to "President," additional, for R.N.A.S.

Chief Petty Officers (R.N.V.R.) E. S. Cripps and N. de Grey promoted to temporary Sub-Lieutenants (R.N.V.R.), with seniority of March 29th, and appointed to "President," additional, for R.N.A.S.

The following resignations have been accepted:

Temporary Sub-Lieuts. (R.N.V.R.) E. F. Allen and H. C. B. Runnalls.

aeroplanes have shown great activity. Near Ostrolenka, on March 29th, 15 enemy aeroplanes dropped as many as 100 bombs on an isolated house, which they probably thought was the Russian headquarters. Not a single bomb struck the house, of which the inhabitants are all safe."

Sir J. Roper Parkington, Consul-General for Montenegro, received the following official telegram from Cettinje last week:—

"On Tuesday, March 30th, at midnight, an Austrian aeroplane passed over Cettinje, throwing seven bombs, which fell in the centre of the town, near the residence of the Crown Prince. All the bombs exploded, and several houses were damaged. No one was killed, but four men were seriously wounded.

"In view of the fact that, at the present moment, the inhabitants of the capital, as in the majority of Montenegrin towns, practically consist of women and children, great indignation is felt at this barbarous method of warfare, especially as the places attacked are unfortified."

AIR SERVICES.

The following announcement was made by the Admiralty on the 3rd inst.:—

F. Charles and H. C. Sinclair both promoted to temporary Lieut.-Commanders (R.N.V.R.), with seniority of March 31st.

C. J. Galpin and W. Tesh have been entered as Probationary Flight Sub-Lieutenants, and appointed to "President," additional, for R.N.A.S. To date March 30th.

The following Chief Petty Officers have been granted temporary commissions as Sub-Lieutenants (R.N.V.R.), with seniority of March 31st, and appointed to "President," additional: T. R. Grey, J. H. Lee, and B. G. Turner.

The following announcement was made by the Admiralty on the 6th inst.:—

Midshipman (R.N.V.R.) E. C. W. Vane-Tempest promoted to the rank of temporary Sub-Lieutenant (R.N.V.R.), with seniority of Jan. 18th, and appointed to "President," additional, for duty with R.N.A.S.

S. R. Hemingway granted temporary commission as Lieutenant (R.N.V.R.), with seniority April 3rd, and appointed to "President" for duty with R.N.A.S.

Royal Flying Corps (Military Wing).

The following appeared in the *London Gazette* issued on the 30th ult.:—

The following appointments to be made:

Equipment Officers.—Second Lieut. A. Huggins, Special Reserve, and temporary Capt.; Feb. 16th. March 1st: And temporary Captains: Lieut. L. S. Metford, Special Reserve. Qmr. and Hon. Lieut. F. H. Kirby, V.C., Qmr. and Hon. Lieut. A. Fletcher. March 8th: Capt. D. G. Conner, R.A., Capt. G. B. Hynes, R.A., Capt. A. Christie, R.A., Capt. K. P. Atkinson, R.A., Lieut. R. H. Verney, A.S.C., and temporary Captain, Capt. B. E. Smythies, R.E., Lieut. H. C. Barber, Special Reserve, and temporary Captain. March 18th.

Assistant Equipment Officers.—Jan. 16th: Lieut. J. T. C. Moore-Brabazon, S.R.; Second Lieut. the Hon. E. A. Stonor, S.R.; Second Lieut. G. C. R. Mumby, S.R.; Second Lieut. N. Goldsmith, R.A.; Second Lieut. S. C. Callaghan, S.R. Second Lieut. L. M. Wells Bladen, S.R. Jan. 19th: Temporary Lieut. A. C. S. Couldwell, 15th H.L.I., and removed to General List, New Armies. Feb. 1st. Second Lieut. T. V. Smith, S.R. Feb. 2nd. Second Lieut. R. B. Bourdillon, S.R. Feb. 13th. March 1st: Qmr. and Hon. Lieut. W. J. D. Pryce, Qmr. and Hon. Lieut. J. Ramsay, Qmr. and Hon. Lieut. J. Starling, Qmr. and Hon. Lieut. A. Levick, Qmr. and Hon. Lieut. A. H. Measures, Qmr. and Hon. Lieut. F. H. Unwin, Qmr. and Hon. Lieut. J. H. Wilford, Qmr. and Hon. Lieut. W. R. Bruce, Second Lieut. R. Orme, S.R., Second Lieut. F. Jolly, S.R. March 10th: Lieut. A. M. C. Scott, 21st London (1st Surrey R.), T.F., Second Lieut. J. E. Storey, S.R.

The following appeared in the *London Gazette* issued on the 2nd inst.:—

The following appointments are made:

Assistant Equipment Officers.—Second Lieut. H. E. Chaney, Lancashire Fusiliers; Feb. 15th, 1915. Second Lieut. G. C. Gold, Special Reserve; March 21st, 1915.



OFFICIAL NOTICES TO MEMBERS

Aviators' Certificates.

THE following Aviators' Certificates have been granted:—

1130 Lieut. Frederick James Powell (Manchester Regt.) (Maurice Farman Biplane, Military School, Farnborough). March 2nd, 1915.

1131 Lieut. Francis Edgcombe Hellyer (The Hampshire Regt.) (Maurice Farman Biplane, Military School, Farnborough). March 2nd, 1915.

1132 Flight Sub-Lieut. Robert Dymond Gladman Sibley, R.N.A.S. (Maurice Farman Biplane, Royal Naval Flying School, Eastchurch). March 24th, 1915.

1133 Flight Sub-Lieut. John Findlay Hay, R.N.A.S. (Maurice Farman Biplane, Royal Naval Flying School, Eastchurch). March 24th, 1915.

1134 Lieut. Colin Critchley Salmonson (R.M. Fusiliers) (Maurice Farman Biplane, Military School, Farnborough). March 25th, 1915.

1135 John Gay (Maurice Farman Biplane, Military School, Brooklands). March 30th, 1915.

1136 Arthur Claud Wright (Maurice Farman Biplane, Military School, Brooklands). March 30th, 1915.

1137 Capt. John Glanville Hearson, R.E. (Maurice Farman Biplane, Military School, Farnborough). March 11th, 1915.

1138 Flight Sub-Lieut. Arthur Connerton Saw, R.N.A.S. (Short Biplane, Royal Naval Flying School, Eastchurch). March 29th, 1915.

1139 2nd Lieut. Cecil St. George Lyster-Smythe (1st East Surrey Regt.) (Maurice Farman Biplane, Military School, Farnborough). March 20th, 1915.

1140 Capt. Reginald Alfred Cooper (Hampshire Yeomanry) (Maurice Farman Biplane, Military School, Farnborough). March 31st, 1915.

1141 2nd Lieut. Ian Woodford Aitken (13th Reserve Regiment of Cavalry) (Maurice Farman Biplane, Military School, Farnborough). March 31st, 1915.

1142 Flight Sub-Lieut. Frederick George Darby Hards, R.N.A.S. (Grahame-White Biplane, Grahame-White School, Hendon). March 31st, 1915.

1143 George Lockhart Piercy Henderson (L. and P. Biplane, London and Provincial School, Hendon). March 31st, 1915.

1144 Charles James Chabot (Maurice Farman Biplane, Military School, Brooklands). April 1st, 1915.

1145 2nd Lieut. Charles Osborne Fairbairn (Loyal North Lancashire Regt.), (L. and P. Biplane, London and Provincial School, Hendon). April 2nd, 1915.

1146 Leonard Wright Learmount (Maurice Farman Biplane, Military School, Brooklands). April 2nd, 1915.

1147 Flight Sub-Lieut. Cuthbert Everard Brisley, R.N.A.S. (Bristol Biplane, Royal Naval Air Station, Hendon). April 4th, 1915.

1148 Gerrit Forbes (Wright Biplane, Beatty School, Hendon). April 5th, 1915.

FROM THE BRITISH FLYING GROUNDS.

London Aerodrome, Collindale Avenue, Hendon.

Grahame-White School.—Wednesday, last week, Probationary Flight Sub-Lieuts. Hards, Jackson, Mack solo circuits, eights, &c.; Feeney solo straight; Bone, Jacob, Kerby, Potts, Wain straight with Instructors Manton, Winter, and Russell; afterwards Probationary Flight Sub-Lieut. Hards going in for and gaining his certificate.

Thursday, Probationary Flight Sub-Lieuts. Mack, Jackson, Feeney solo circuits, eights, &c.; Wain, Potts, Kerby, Jacob, Greer, and Bone straight with Instructors Manton, Winter, and Russell.

Friday, Probationary Flight Sub-Lieuts. Bone, Jacob, Kerby, Potts and Wain straight with Instructors Manton, Russell and Winter.

THE FLYING SERVICES FUND.

Administered by The Royal Aero Club.

THE Lords Commissioners of the Admiralty and the Army Council having signified their approval, the Royal Aero Club has instituted and will administer a fund originated by M. André Michelin for the benefit of officers and men of the Royal Naval Air Service and the Royal Flying Corps who are incapacitated on active service, and for the widows and dependents of those who are killed.

The fund is intended for the benefit of all ranks, but especially for petty officers, non-commissioned officers and men.

In view of the great utility of the work of the Flying Services, evidence of which has been repeatedly given in the official despatches of the Commander-in-Chief, the skilful and daring flights into enemy country, and the protection afforded by the continuous patrolling of our coast by aircraft, it is confidently expected that the British public will welcome this opportunity of showing their appreciation by subscribing promptly and liberally to the fund.

The Right Hon. Lord Kinnaird has kindly consented to act as Honorary Treasurer to the Fund.

Subscriptions should be forwarded to The Flying Services Fund, The Royal Aero Club, 166, Piccadilly, London, W., or to Barclay and Co., Ltd., 1, Pall Mall East, London, S.W. Cheques should be crossed "Barclay and Co., Ltd."

TULLIBARDINE, Brig.-General,
Chairman of the Royal Aero Club.

	£	s.	d.		£	s.	d.
Total subscriptions received to March 30th, 1915...	7,791	15	11	Major A. J. Coke	1	0	0
Per "W."	0	14	3	H. D. Munro	1	1	0
Non-commissioned Officers and Men of the				Pupils of Dowally School	1	0	0
Salisbury Town Detachment of the British South Africa Police	5	14	0	C. D. G.	0	10	0
Oscar A. Danielson	1	0	0	Nurse Mary E. Ball	0	1	0
				"Wrexham"	1	0	0
				Total, April 7th, 1915	7,803	16	2

166, Piccadilly, W. B. STEVENSON, Assistant Secretary.

Saturday, too windy for pupils.

Sunday, Probationary Flight Sub-Lieuts. Coleman (new pupil), and Kerby straight with Instructors Winter and Russell.

Monday, Probationary Flight Sub-Lieuts. Mack and Jackson solo circuits, eights, &c., Bone, Coleman, Jacobs, Kerby, Potts and Wain straight with Instructors Manton, Russell and Winter.

Beatty School.—The following pupils were out during last week accompanied by the instructor:—Messrs. Bond (30 mins.), Roche (25), Cooper (10), Monfea (5), Leong (25), Allcock (15), Whincup (5), Bransby-Williams (5), Wiles (10), Bright (15), de Meza (5), Forbes (45), Fraser (5), Yates (15), Fitzherbert (15). The instructors were Messrs. G. W. Beatty, W. Roche-

Kelly and C. B. Prodger, the machines in use being Beatty-Wright dual control and single-seater. Messrs. Bransby-Williams, Yates and Fitzherbert continued extra practice, and several passenger flights were taken.

Hall School.—Monday, last week, pupils having practice alone with full control: Lieut. Blythe (4 mins.), A. Davey (6), and E. Mitchell (6).

Tuesday, Mr. Hall took Mr. C. Cook, new pupil, for four passenger flights. Mr. Mitchell out by himself doing a number of good straights.

Wednesday, Mr. Hall out on No. 2 machine giving passenger flights and instruction to Messrs. Cownie, Mitchell, and Francis. Mr. Davey out by himself during the morning making a number of straights at about 10 feet.

Thursday, Messrs. Furlong 12 straights, Cini (4 mins.), and Mitchell (2). School closed during the week end for the holidays.

Instructors for the week: Messrs. J. L. Hall and J. Rose.

Machines in use: Tractor biplanes.

London and Provincial Aviation Co.—Monday, last week, Lieut. Fairbairn and Mr. McCauley rolling.

Tuesday, M. Deschamps straights and Lieut. Fairbairn rolling.

Wednesday, Lieut. Fairbairn, M. Deschamps, and Goodwin straights; Mr. Henderson circuits and eights, afterwards taking certificate in good style; Mr. Moore extra practice.

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THE WORK OF THE R.F.C. AID COMMITTEE.

SOME little time ago we were able to give extracts from a few letters from recipients of parcels which had been sent out by the Royal Flying Corps Aid Committee. Below we publish a few more letters received by Lady Henderson, which more than anything else shew what good work the Committee is doing. Further donations will still be welcomed, and should be sent to Lady Henderson at Surrey House, W.

DEAR MADAM,—Just a line in acknowledgment of receiving a "Gift Parcel" from the Royal Flying Corps Aid Committee. I received this a week or more ago now, but until to-night I have not answered as writing is one of the things I would always rather do to-morrow. I can't keep putting off this duty though; and so I now take this favourable opportunity of answering your invitation and thanking you for your kind attention to the sending of comforts to us men out here. I am sure the R.F. Corps is a very lucky Corps for having such a Committee to give thought to our needs, and must say the selection is generally of those things which are most required. I have learned also that the tobacco must be of a different specie to that obtained out here, as it is always greeted with one of those smiles that won't come off, whereas the Frenchman's kindly offer of a pipe-full is met with a few words of (sometimes) an unknown language (which might be meant for French), but in any case means "No, thank you." Well, in my concluding lines I must express my hope that all other corps and regiments

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"Missing" R.F.C. Officer reported Safe.

SUBSEQUENT to the official announcement given on page 240, that Lieut. Mapplebeck, of the Liverpool Regiment and the R.F.C., was a "prisoner of war," it was unofficially reported that the officer, although forced to descend in the German lines owing to engine trouble, had managed to effect his escape and return to London.

Zeppelins' Activity in North Sea.

ON March 30th the *Daily Mail* correspondent at Copenhagen wrote:—

"The two Zeppelins which were sighted yesterday from Schiermonnikoog had started at 2 p.m. from the airship sheds at

Thursday, Messrs. Goodwin, Lincoln, Derwin, and Lieut. Fairbairn straights; Mr. Goodwin and Lieut. Fairbairn half circuits and circuits; Mr. McCauley rolling; Mr. Moore extra practice.

Friday, Lieut. Fairbairn circuits and eights, afterwards taking certificate in first-class style; one week's tuition; 95 mins. on the machine, which looks like record.

Ruffy-Baumann School.—On Monday last week, E. Baumann out on 60 Caudron. On 45 h.p. R.B., Kenworthy (8 mins.), Blandy (4), Sykes (4).

Wednesday, on 45, Hydon (12 mins.), Sykes (16), King (16), Blandy (12).

Thursday, with E. Baumann on 60 Caudron, Bell (22 mins.), Roobaert (12). On 45, Hydon and Jackson (16), Sykes (12), Blandy (8).

Friday, on 45, Mr. King (56 mins.), Jackson (4). Instructors, E. Baumann and James Brothers.

Northern Aircraft Co., Ltd.

The Seaplane School, Windermere.—During last week tuition was given on Tuesday, Wednesday, Thursday, and Friday. Instructors: Messrs. W. Rowland Ding and C. L. Pashley. The following received instruction: Flight Lieut. Atherton, R.N., Messrs. C. A. Barber, R. Buck, A. Johnson, F. H. M. Macintyre, J. Lankester Parker, G. L. Railton, H. P. Reid, J. F. Ridgeway, S. J. Sibley, H. Slingsby. Doing circuits: S. J. Sibley. Extra practice: J. Lankester Parker. Machines in use: N.A.C. propeller biplane and Avro dual-control tractor biplane.

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have an Aid Committee with as much energy as the R.F.C. I'll close, again thanking you for your kind present and thought.

I am, Madam,
Your obedient servant,
SERGEANT —.

DEAR MADAM,—I received your parcel on the 9th, and was very pleased with it, as were all the fellows in the room of our billet. The things you send all come in useful and seem to come at the time when they are most needed. When this parcel came nearly everyone was out of cigarettes, and so they came in very useful.

I remain, yours truly,
T. H. C.

DEAR MADAM,—It is with the greatest pleasure I return this little note to convey my best thanks for your gift parcel just received, the contents of which are very much appreciated, and serve our purpose very well. This is the second I have received, and have been well served with each, especially the socks, as we are very hard on them. Best regards from a

SOLDIER AT THE FRONT.

DEAR LADY HENDERSON,—I received parcel to-night, and must thank you and contributors very much for same. I do not think anyone could have made up a better parcel of goods to send out here. Everything seemed to be just what was wanted, even to the pipe—I had just broken the one I had. I am a 2nd A.M. in No. 9 Squadron, and you have my heartfelt thanks for your kindness.

I am, yours, &c.,

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Toender, in Schleswig. At about 5.30 p.m. one of them returned on account of a heavy snowstorm. Twenty minutes later the second was observed passing along the Danish coast and trying to reach the frontier. Both Zeppelins had a narrow escape from destruction by a storm in the North Sea. When the second vessel succeeded in crossing the frontier it descended immediately. It is reported that this Zeppelin was badly damaged and that the crew had suffered seriously during the snowstorm, which it is believed prevented a raid on the English coast."

On Sunday last the following was reported:—

"From Blaavandshuk (on the extreme western point of Jutland) it is reported that a Zeppelin was sighted coming from the south and proceeding in a westerly direction over the North Sea. At the Island of Fanoe a waterplane was observed, evidently escorting the Zeppelin."

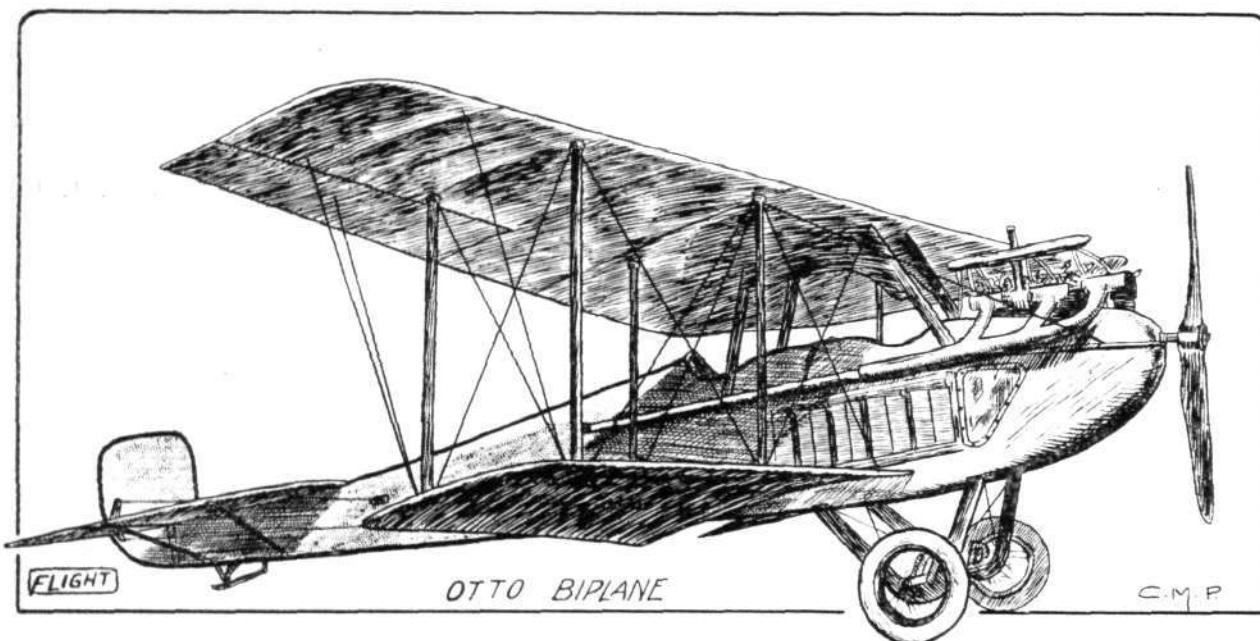
A NEW OTTO BIPLANE.

GENERALLY speaking, the Munich firm of Otto had confined their attention, before the war, to the production of machines of the engine-behind type. As, however, the German military authorities, unlike our own, discouraged the construction of "pusher" biplanes, nearly all the firms who had up to then been turning out engine-behind machines, concentrated on the production of tractors. A new one of these built by the Otto firm was completed and tested shortly before hostilities broke out, and as it showed excellent capabilities both in weight-lifting, speed and carrying capacity, it would appear probable that a number of these machines are being used against us, and a few notes regarding the type should therefore be of interest.

Fundamentally, the new German Otto biplane follows fairly closely on standard lines, and such improvements

photographs. In addition, mica windows are fitted on each side of the body in front of the observer's seat, so that by stooping down inside the body he can be out of the draught and still obtain a fairly good view on each side.

In plan form the main planes, of which the upper one has a slight overhang, have a pronounced taper towards the tips, that is to say, the greatest chord is in the centre, the leading edge sloping backwards and the trailing edge sloping forwards. The lower planes are attached to the sides of the body, whilst the upper planes are attached to a centre section carried on a steel tube structure coming up from the upper longitudinals of the body. Small service tanks for petrol and oil are fitted in the angle between these centre struts and the centre section of the upper plane. Two pairs of steel struts on each side of



as have been effected are mostly to be found in a reduction of head resistance wherever possible, a reduction which has resulted in a considerably higher speed than that usually found in German aeroplanes. The body, which is of rectangular section, is topped with a turtle back in which are the openings for the pilot's and passenger's cockpits and for the engine. The rounded nose, which is covered with aluminium sheeting, provides a very good entry for the air, thus contributing considerably towards the high speed obtained, *i.e.* about 87 miles per hour. The engine—a 150 h.p. Rapp—is mounted on stout ash bearers in the nose of the body, and is, as will be seen from the accompanying illustration, fitted with a long exhaust pipe running back along the side of the fuselage to a point behind the pilot's seat, so as to convey the exhaust gases out of the way of the occupants.

In the floor of the body, ahead of the front seat, which is occupied by the observer, an opening is provided through which an unrestricted view is obtained in a downward direction for purposes of observation or for taking



Aerial Attacks on Steamers.

OFFICERS of the Cork steamer "Ousel" report that on March 27th, when 15 miles east of the Galloper lightship, they were attacked by two German seaplanes, eleven bombs being dropped; fortunately all fell 25 to

the body connect the upper and lower main planes, and cross-bracing is effected by means of stout stranded cables. The drift is taken by internal cross-bracing of the wings and by cables running from the top of the first front inter-plane strut to the nose of the body. Control is by means of the usual hand lever for longitudinal and lateral control, and a pivoted foot-bar for directional control. Large sized ailerons are fitted to the trailing edge of the upper plane only.

A chassis of the simple V type, usually found on modern German tractors, is fitted. It is built up of stream-lined steel tubes, cross braced with thick stranded steel cables, and carrying the tubular axle which runs right across from side to side. The tail planes consist of a semicircular stabilising plane, to which is hinged the divided elevator, and of a partly balanced rudder, hinged to the stern-post of the body. Sufficient fuel is carried for a flight of five hours' duration, which gives a radius of action of approximately 220 miles. No figures are available regarding the rate of climbing, but it is said to be exceptionally good.



50 ft. wide of the steamer. The Dutch steam trawler "Hibernia" had a bomb dropped near it from a German seaplane in the North Sea on the 29th. The following morning the Leith steamer "Staffa" had a similar experience near the Galloper lightship.

EDDIES.

IT was with a feeling of expectancy that on Good Friday I wended my way along the familiar foot-path leading from the old church, Hendon, to the aerodrome, for although my visits there are frequent enough in the ordinary course of events, the prospect of seeing once more exhibition flights, with a possible prospect even of racing, seemed to give a different aspect to everything. From a distance the flags at the gates, blowing in the breeze, could be seen as patches of bright colours against the dull grey background of the sky, lending a certain cheerfulness to the scene, and reminding one of the pre-war days gone by, when these same flags used to wave one a cheerful welcome. However, the manner in which the Union Jack, the Tri-Colour, and the numerous other emblems of various nations were straining at the lines in their endeavour to take leave of the masts did not bode well for the afternoon's exhibition.

x x x

Once inside the gates my first objective was the wind gauge in the paddock. Even from a distance of several yards the little pen which influences to such a large extent the amount and character of the flying, could be seen to be moving up and down in a series of violent jerks, reminiscent of the band conductor's baton. My visions of "stunt" flying faded in an instant, and instead I began to picture an afternoon without a single flight. From casual remarks dropped by some of the visitors, I received the impression that the majority of these were fully aware of the dangers of airwork under the prevailing weather conditions, a fact which speaks well for the educational value of the meetings held at Hendon before the war. It was, therefore, more with a feeling of pleasant surprise than with one of disappointment at seeing no flights earlier in the afternoon, that the public greeted the appearance towards evening of Mr. Graham on "Lizzie." His performance was truly a magnificent one, but personally I felt greatly relieved when he had landed safely, after giving a demonstration of his steep spirals, for the wind was tricky and treacherous. And, after all said and done, "Lizzie" has an engine of 50 h.p. only. However, all went well, and every credit is due to "Lizzie's" owner for his plucky stunt, and for the masterly way in which he handled his machine.

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Altogether I enjoyed myself no end, but I should like to venture one suggestion. It would undoubtedly add considerably to the interest in the weekly meetings if, in the future, the co-operation of the other establishments at the aerodrome could be secured, as this would mean not only more flights but also a greater variety of machines. The matter of making some satisfactory arrangement on a basis of the number of machines brought out by the other firms should not be a very difficult one, and would, it appears to me, be of mutual advantage. It would certainly redound to the general credit of the aerodrome, and help to make each and every visitor a perambulating advertisement.

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It seems that Mr. Graham's exhibitions during the Easter meeting were the last that the public will have an opportunity of seeing, at least for some time—the more's the pity—as he has been appointed Probationary Flight Sub-Lieutenant in the R.N.A.S. The work required of him there will be of a more serious nature, but all his

friends—and they are numerous—feel confident that whatever duties he may be called upon to perform he will prove himself equal to them. His piloting of "Lizzie" will be greatly missed at the aerodrome.

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A propos commissions, it is good news to hear that two other Hendon pilots, Dunn and Carr, have been promoted to Flight Sub-Lieutenants in the R.F.C. Congratulations to them! Their appointment is all the more creditable since it has been won on sheer merit, for services rendered in the field, and well they deserve it.

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Another pilot, Sergeant A. E. Barrs, of the same "batch" as Dunn and Carr, paid a visit to Hendon on Easter Monday. He had a little flutter round the pylons on one of the G.W. school machines, which he piloted to such good purpose that he won the speed race, a performance for which he will, I understand, be awarded a silver medal. On Wednesday, this week, he was rejoining the R.F.C., after his convalescence.

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Without wishing to detract in the slightest from the excellent flying of the other pilots at Hendon, I venture to specially particularise the most picturesque exhibition of the whole meeting as that given by Mr. Roche-Kelly on the Beatty biplane. His left and right hand turns were so steeply banked that it must have seemed to many of the spectators that a side-slip was inevitable. It should be of interest, and I trust I am not giving away any



The man who bought and flies "Lizzie," Mr. C. A. Graham.

secrets, if I mention that the ease with which this machine now handles appears to be due to certain alterations from the original design recently carried out at the Beatty works. In the first place, a better streamline form has been given to the struts, and the blinkers formerly fitted above the front part of the skids have been removed. In order to render the machine easier on the warp, a slight "wash-out" has been given to the wing tips, and the effect was easily noticeable. Mr. Kelly's performance drew tremendous applause, as well it deserved, for his was a very fine example of skilful airmanship.

* * *

Mr. Ding, of the Northern Aircraft Co., indulged in a couple of flights on the "Mann" biplane on Sunday, March 28th. He had hoped to try the machine in the strong wind that was asserting itself during the early part of the afternoon, but greatly to his disappointment it eased off directly the 'bus was brought out, thus preventing the wind test from being carried out. Instead, Mr. Ding made a couple of flights, each of about 15 minutes' duration, the first one solo, and in the second accompanied by the designer, Mr. Mann. On both occasions she got up to about 1,000 ft. and was flown "hands off." The designer has now come to the conclusion that a little extra power is required to make the machine fly as he wants her to, and a 125 h.p. Anzani is being fitted instead of the original 100 h.p. This should give the desired climb and speed, especially as the machine itself will be considerably lightened.

⊗ ⊗ AIRCRAFT AND THE WAR.

WRITING to the *Daily Telegraph* from Bale under date of March 25th, Mr. A. Beaumont said:—

"I have just witnessed a vivid picture of the war. A German balloon, attached probably to some battery near Altkirch, rose, as usual, some hundred yards into the air, and swung lazily in the light breeze that blew from across the southern summits of the Vosges, when a shell, hurled with remarkable precision from a French gun, struck it. All we could see was a little puff of white smoke, followed immediately by a lurid glare. The balloon was no more, and the occupants of its frail basket had likewise met their fate. The guns on either side boomed away, the invisible battle continued as violent and as distant as ever. Before long a bevy of aeroplanes could be spied through powerful field glasses. They had come from the French side, but were like tiny gnats in the sky. Other aeroplanes, from the German lines, came from Altkirch, or from hiding places on the other side of the Rhine, and chased the first ones in a zig-zag line. Below them the guns thundered away incessantly."

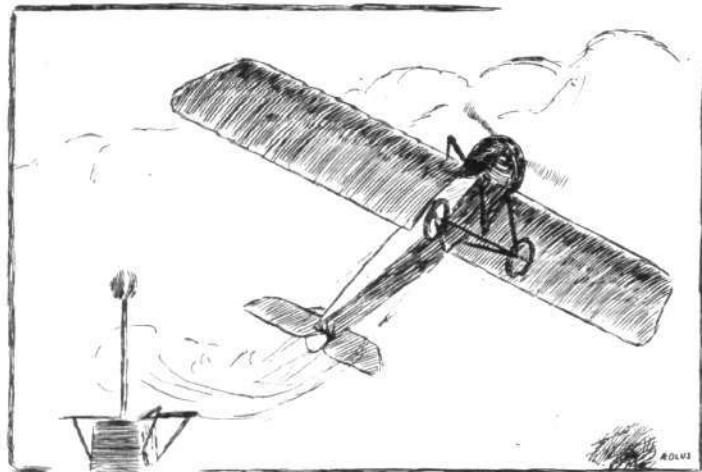
In a message on the next day Mr. Beaumont said:—

"Next to the Chasseurs Alpins, the French aviators from Belfort are a source of constant terror and surprise to the Germans in the Sundgau. The aviators of Belfort are among the most daring of their kind. Day by day they set out on their various missions across the Rhine, or along the foothills of the Vosges, and return with valuable information. The German authorities realise that no great military movement, or concentration of troops, can be carried out without its being known to the French through their excellent aviation service. Yesterday we again saw an entire squadron come over the crests west of Dammerkirch and steer north in the direction of Mülhausen. Every German battery opened fire on them, but they seemed to pay no attention to this. The inhabitants had been warned by the blowing of whistles and the sound of trumpets, and, according to the military instructions, they were to hide in the cellars. The German commanders on purpose exaggerate the terrors for the civilian population, in order to cultivate a hatred of the French. But the people take things rather calmly, and the French aviators have been careful not to throw bombs where the civilian population might be injured."

Writing on March 28th, Mr. A. Beaumont said:—

"At present there is less likelihood than ever of the Germans piercing the Vosges. The French aviators, if not the whole of the French army at this end, have everything their own way. So late as last Friday a whole bevy of French aeroplanes could be seen

The first of the series of Morane monoplanes being built by the Grahame-White Aviation Co. have now been completed, and several of them have already been delivered. One of these was put through her acceptance trials last week by Flight Lieutenant B. C. Hucks. Hucks' handling of the Morane is said by those who



witnessed it to be absolutely masterly, and the machine, as one would expect from a firm like the G.-W. A. Co., did right well in the tests. As to figures, well these for the time being are best left alone—what with an Editor and a Censor always on the alert, the ways of a staff contributor are far from easy.

"ÆOLUS."

over the Rhine valley. Two French aeroplanes were simultaneously over Metz, and dropped bombs, which killed three soldiers. Two others flew at the same time over Strassburg, and took a malicious pleasure in circling, unharmed, over the towers of the old cathedral, but without dropping any explosives. Two or three other aviators were next seen over Freiburg, Schlettstadt, Mülhausen, and Colmar. The appearance of the French aviators over the great stronghold of Metz caused a commotion in the town. The civilian population was warned and terrified by loud signals from the military, trumpet-calls at all the principal street corners, the beating of drums, and the firing of guns. The orders of the governor were that when these signals were given, including the blowing of the whistles in the factories, civilians should take refuge in their cellars. The streets were to be instantly cleared, and the shops and beerhouses closed. In a few minutes the whole town looked deserted, and the only persons still in the streets were soldiers returning to their barracks. Three of these were killed by a bomb which one of the aviators dropped from a great height.

"In Strassburg a similar scene was enacted. The factories blew their signals, and trumpets warned the inhabitants that they must go to their cellars, or at least clear out of the streets."

On arrival in London last week, Mr. Charles Peacock, who has been in Antwerp since the beginning of the war, gave an account of the British air raid on Hoboken on March 24th:—

"He said he saw four aeroplanes arrive, about 7 a.m., and make the attack. The aeroplanes were flying at a height of about 1,500 metres (nearly 5,000 ft.), but they were very much lower when they dropped the bombs on the shipyard at Hoboken.

"Mr. Peacock says the explosions were terrific. Although no one is allowed in the vicinity of the shipyard, he asserts that it is believed in Antwerp that four submarines, which were ready to be launched, were destroyed by the British bombs. Sixty-eight German soldiers are said to have been killed by the bombardment."

The *Daily Mail* correspondent at Salonica reported the following on the 28th ult.:—

"Aeroplanes, the nationality of which is unknown, flew above the entrance to the Dardanelles at an altitude of 4,500 ft., and immediately disappeared. Intermittent firing at once began, and was kept up until half-past twelve noon, when the fire became more violent. This cannonade, which came from the direction of the Gulf of Saros, shook the island of Tenedos."

A message to the Rome *Tribuna* from Tenedos, referring to the bombardment of the Dardanelles forts on March 28th, said:—

“Several of the Turkish forts did not reply at all to the fire, and the others replied feebly. Aviators were able to ascertain that Fort Dardanos has been abandoned.”

The *Daily Telegraph* correspondent at Boulogne, writing on March 29th, said:—

“The approach of a Zeppelin was signalled on Saturday evening, but, thanks to the vigilance of the Allies' aviators, she had to abandon her nocturnal voyage, and returned towards the German lines.

“Towards eight o'clock this morning a Taube flew over Cassel and dropped six bombs. The overhead wire and a tramcar were slightly damaged. The aeroplane then passed over Hazebrouck and Bailleul.”

Writing from Havre on the 29th, a *Daily Telegraph* correspondent said:—

“A telegram received yesterday by the Minister for War announces that yesterday the Belgian artillery brought down a German aeroplane. The aeroplane fell into the Belgian lines.”

In a long despatch, detailing the conditions in Lorraine, a special correspondent of the *Times* said:—

“The people of Nancy have a great weakness for the flying men. As I was walking round, looking at one or two of the houses, which I had last seen in ruins from the effects of the German guns and Zeppelin bombs (all of them now built up again), I heard the familiar crackle of musketry and boom of aeroplane guns, which meant that a Taube or an Aviatik was over the town. No one took any notice of it. Only two or three people have been injured by the 60 bombs which have been dropped in Nancy in the last two months, and familiarity has produced the usual result. But suddenly another aeroplane, a quick climber, shot up into the air. ‘C'est un Anglais!’ said somebody. The guns stopped firing, and every eye followed him as he rose higher and higher in the hope that he might get near enough to the enemy machine, now fast making tracks, to bring it down. But just when there seemed a good chance of success, the Englishman almost stopped, then looped the loop, and made a long *vol plane* back to his hangar, which he reached, we heard afterwards, with hardly a teaspoonful of essence left. When the enemy was sighted, his oil tank happened to be nearly empty, but he had flown off at once without stopping to fill up. The Lorrainers liked that. It fitted in with their ideas of light-hearted English daring, in which they have a great belief.”

Writing to the *Daily Mail* from Petrograd on the 29th ult. of the bombardment of the Bosphorus forts by the Russian Fleet, Mr. H. Hamilton Fyfe said:—

“The Russian ships are firing from positions some miles out at sea. Waterplanes are observing and correcting the aim of the gunners, as in the Dardanelles.”

The following telegram from Constantinople was received in Amsterdam on the 30th ult.:—

“The following *communiqué* has been issued from the Turkish headquarters:—

“Yesterday one of our seaplanes dropped bombs on a British warship cruising outside the Dardanelles.”

The *Daily Telegraph* correspondent at Copenhagen reported the following on the 30th ult.:—

“According to a special message from Vienna, Lieut. Stanger, who was one of the last aviators to leave Przemysl before its surrender, in informing the army of the capitulation, states that General Ku-manek showed him, just before he left, a telegram from the Emperor, who recommended the general to surrender the fortress.”

The Sluis correspondent of the *Telegraaf* on March 30th reported:—

“Several aeroplanes of the Allies flew at 5 o'clock this morning above Bruges and went towards Zeebrugge, whence reports of bombs and gunfire were quickly heard. After the last attack on the aerodrome at Gits, near Roulers, the aerodrome was removed to an unknown locality.”

According to the *Nieuwe Rotterdamsche* correspondent, the aviators were British.

On March 30th the *Times* Paris correspondent sent the following message:—

“On Saturday an aeroplane of the Allies successfully dropped bombs on a German armoured train near the British front.

“Another aeroplane observer, reconnoitring over Maubeuge, reports that the Germans have repaired all the bridges in that neighbourhood.”

Mr. James Dunn, writing to the *Daily Mail* from Rotterdam on March 30th, said:—

“A thrilling fight between Allied and German aeroplanes round a German captive balloon at Zeebrugge is reported by my Flanders correspondent. Since nine o'clock yesterday morning, he says, the captive balloon has been aloft in fine weather and a fairly strong wind. The balloon is cigar shaped. The Allied aeroplanes attacked the balloon, but were driven off by the land batteries. Four German aeroplanes went in pursuit, and many shots were exchanged in the air. The machines were skilfully handled in the high wind. One of these, a Taube, fell in the dunes, and two airmen were killed.

“A squadron of British warships was cruising off Zeebrugge at the time, and several shots were fired at submarines which attempted to escape into the open, while the Allied aeroplanes, having driven back the Taubes, continued to scout along the coast, where they were shelled at intervals by the concealed batteries in the dunes. Armed trawlers fled before the English ships into the safety of Zeebrugge Harbour, where they remain with steam up.

“This afternoon a great number of Allied aeroplanes were very active.”

A *Daily Mail* correspondent at Odessa, writing on the 30th ult., said:—

“The Russian Fleet then proceeded to Zunguldak (Southern Black Sea coast) and caused two enormous explosions at the coal mines. Waterplanes assisted the Fleet by dropping bombs on important positions. The Turks fired at the waterplanes. Several of them were struck in the wings, but the airmen were not injured.”

According to a Central News message from Amsterdam on the 31st an aeroplane was seen during the afternoon near the Belgo-Dutch frontier flying in a westerly direction. It was fired upon from the German positions. It was not known whether any bombs were dropped.

The Sluis correspondent of the *Tyd* reported the following on the 31st ult.:—

“Last Saturday (27th) five airmen attacked Igteghem, near Thourout, where many troops are concentrated, and where a flying ground has been erected, killing thirty and wounding about sixty soldiers. The wounded were transported to Thourout.

“Yesterday morning an airman dropped five bombs on the dock near Bruges, where submarines were laid up after their raids. The result is not known.”

The following message from Bethune was received in Paris on the 31st ult.:—

“A German aeroplane was brought down yesterday morning near Poperinge by gunfire. The machine was destroyed, and the aviators were killed. Another aeroplane flew over Bethune and threw four bombs, which did only damage to property.”

According to messages received in Paris on the 31st from Hazebrouck, a Zeppelin flew over Bailleul during the morning and dropped two bombs, which fell in fields without doing any damage. The dirigible subsequently made off in the direction of Armentières. The staff at Hazebrouck station had been forewarned of the approach of the Zeppelin and had extinguished all the lights.

A Taube also flew over Bailleul in the morning and dropped six bombs, which did no damage.

Correspondents of the *Telegraaf* reported on the 31st that a Zeppelin had been seen during the morning over the isles of Vlieland and Terschelling, travelling rapidly in a westerly direction.

A *Daily Telegraph* correspondent at Petrograd, writing on the 31st ult., said:—

“During the last day or two air scouts have been very active, and on Monday fifteen of their aeroplanes were visible simultaneously in the Ostrolenka district. The aviators devoted themselves specially to a single detached house, which they evidently believed to be tenanted by one of the higher Russian staffs. During the day they flung no fewer than 100 bombs at this building, but not one struck it, and none of the inmates was hurt. Near Edvabno one of the enemy's aeroplanes was shot down, and fell between the lines. The officers who manned it were captured, but owing to a heavy fire it was impossible to get the apparatus away.”

According to a telegram from Athens to the *Tribuna*, the authorities have expelled all newspaper correspondents from Tenedos.

"Just as they were leaving the island the journalists witnessed an exciting duel between two German aeroplanes and four British machines. The Germans, who were above the British, threw down bombs, which, however, missed their mark, and finally the enemy aviators were put to flight."

A *Daily Telegraph* correspondent at Mitylene, writing on the 31st ult., said:—

"On Sunday four German aeroplanes flew over the anchorage of the fleet and dropped two bombs intended for the aeroplane ship, 'Ark Royal,' but these fell wide of the mark. They were then chased back into the Straits by our seaplanes."

The following telegram from Constantinople was received *via* Berlin in Amsterdam on the 31st ult.:—

"The Allies' Fleets have resumed the bombardment of the villages near the outer forts of the Dardanelles. Enemy airmen are reconnoitring daily."

A Reuter message from Cettinje on the 31st ult. said:—

"At midday to-day two Austrian hydroplanes flew over Antivari and dropped two bombs, one of which seriously damaged the railway station."

In the German *communiqué* issued from Main Headquarters on the 1st there was the following:—

"Yesterday enemy aviators dropped bombs on the Belgian towns of Bruges, Courtrai, and Ghent, without doing any military damage. In Courtrai one Belgian was killed and another injured by a bomb in the neighbourhood of a hospital."

Writing to the *Daily Mail* from Rotterdam on the 1st, Mr. James Dunn said:—

"A new German aerodrome has been established about a mile from Zeebrugge, near Lisseweghe, to take the place of the one at Ghent."

Messages received from Hazebrouck on the 1st inst. stated that about fifteen bombs had been dropped by German aeroplanes on Merville and Estaires. They injured nobody, but broke some windows; the machines were driven off by French aviators.

The *Pester Lloyd* reported the following from Turnu Severin (Roumania):—

"On Wednesday afternoon, 31st ult., a Taube aeroplane appeared over the Servian town of Kladova, and dropped two bombs, killing three Serbian soldiers and setting a house on fire. The aeroplane was fired upon, but escaped injury."

Reuter's correspondent at Athens reported the receipt of advices from Tenedos on the 1st inst., that the reconnaissances of the Allied aviators over the Dardanelles continued.

The *Daily Mail* correspondent in Northern France sent the following story on the 2nd inst.:—

"The duel in the air between Roland Garros, the famous French aviator, and a German Aviatik machine took place near here yesterday. Three German aeroplanes were discovered making towards the French lines, and immediately two French airmen started up to meet them. One of these was Garros, who by clever flying was able to get near to one of the German intruders and force a fight.

"The duel took place at an altitude of nearly 6,000 ft. The machine which Garros was piloting was hit several times, but the bullets only pierced the wings. Garros, on the other hand, made better practice with his gun, and at the thirty fifth shot the Aviatik zigzagged in the air. The petroleum tank took fire and the enemy airmen in their burning machine crashed to earth. Garros landed close by, only to find that his adversaries were dead."

A *Daily Mail* correspondent at Rotterdam on the 2nd inst., said:—

"Following Wednesday's air raid on the submarine construction works at Antwerp, the Allied airmen dropped bombs on Malines arsenal."

The Sluis correspondent of the *Handelsblad* reported on the 2nd inst.:—

"Yesterday morning, at six o'clock, British airmen reconnoitred in order to ascertain the effect of the bombardment which was

directed upon Zeebrugge, the German submarine base, and upon the aerodrome near the canal, between Lisseweghe and Zeebrugge."

The correspondent of the *Telegraaf* at the same place said:—

"I learn that the Allied airmen are again displaying great activity in Flanders. They attacked and damaged the railway line between Ghent and Dixmude near Zarren and Cortemarck."

The *Daily Telegraph* correspondent at Copenhagen reported the following on the 2nd inst.:—

"According to a special message from Berlin, an enemy's aviator dropped bombs on Mulheim, destroying many buildings. Another aviator dropped bombs on Neuenburg, damaging factories and other buildings."

Information was received by the *Frankfurter Zeitung* to the effect that a hostile aviator dropped several bombs on Villingen (Black Forest) on April 1st, at 4 p.m., and that one bomb fell just behind a passenger train. The damage done to persons and to material property has not yet been ascertained.

According to the *Telegraaf* a Taube on Saturday morning manœuvred over Putten for some time, disappearing when the Dutch frontier guard opened fire upon it.

In the "wireless" news sent out from Berlin on the 4th inst. there were the following items:—

"Constantinople reports reconnoitring by aviators, ascertained to be Anglo-French. The Russian fleet, after the 'st-géy' attitude before Bosphorus, undertook on the 30th a fresh attack on the Eregli coal district. They fired 2,000 shots, sank nine barges, and damaged four houses. Otherwise there was no success. There was no loss of life, and the coal output continues as usual. The aviators were repulsed by the land batteries. At noon the Russian fleet retired."

The *Daily Mail* correspondent at Porrentruy (Switzerland) sent the following on Monday:—

"This evening at ten minutes past six two French airmen landed on Swiss territory opposite the railway station at Porrentruy. They had started from Belfort and were under the impression that they were following the valley of the Doubs, whereas they had followed the valley of the Aulaine. Near the Swiss frontier they were fired on by the Germans, but though the aeroplane was struck by several bullets the aviator and his observer, a corporal, landed safe and sound. The airmen have been sent to the headquarters of the Swiss Army Corps commander."

A *Daily Mail* correspondent at Athens on Monday, telegraphed that passengers on the Greek steamer "Arcadia" stated the bombardment of Smyrna recommenced at 10 a.m. on Sunday:—

"The British ships were especially selecting two points—Castro and the heights locally known as the Two Brothers. British aeroplanes dropped many bombs on these fortified positions."

The *Daily Telegraph* correspondent at Boulogne sent the following messages on Tuesday:—

"Last night a Zeppelin made vain efforts to fly over Dunkirk. It was at about midnight when the coastguards heard the approaching hum of a Zeppelin engine. The alarm was at once given, and the anti-aircraft searchlights soon discovered the German machine, which made several unavailing attempts to avoid getting within the range of the lights.

"The Zeppelin turned out to sea, but French battleships flashed their searchlights on the sky, and the machine made off rapidly towards Ostend.

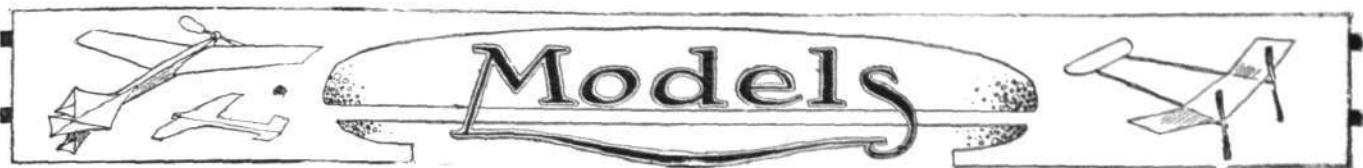
"During a religious service on Sunday afternoon last a Taube dropped bombs on Newkerk Church, near Ypres.

"There was a large congregation present, and besides numerous cases of serious injuries, twelve women were killed outright.

"The Abbé Reynaert, who was preaching at the time, was hit by flying débris, and was so badly hurt that he died from his injuries some few hours later."

The following was reported by the *Daily Telegraph* correspondent at Rotterdam, on Tuesday:—

"The coastguard at Ymuiden reports that off Noordwijk a large balloon, probably a captive balloon which had broken from its cables, has been sighted floating. It is believed the crew is on board. This evening two Dutch torpedo boats left Ymuiden in search, also the lifeboat from Noordwijk."



Models

Edited by V. E. JOHNSON, M.A.

Professor Langley's Model Work.

(Continued from page 238).

"IN the second trial, which followed directly, it repeated in nearly every respect the actions of the first, except that the direction of its course was different. It ascended again in the face of the wind, afterwards moving steadily and continually in large curves accompanied with a rising motion and a lateral advance. Its motion was, in fact, so steady, that I think a glass of water on its surface would have remained unspilled. When the steam gave out again, it repeated for the second time the experience of the first trial when the steam had ceased, and settled gently and easily down. What height it reached at this trial I cannot say, as I was not so favourably placed as in the first; but I had occasion to notice that this time its course took it over a wooded promontory, and I was relieved of some apprehension in seeing that it was already so high as to pass the tree tops by 20 or 30 ft. It reached the water 1 min. 31 secs. from the time it started, at a measured distance of over 900 ft. from the point at which it rose.

"This, however, was by no means the length of its flight. I estimated from the diameter of the curve described from the number of turns of the propellers as given by the automatic counter, after due allowance for slip, and from other measures, that the actual length of flight on each occasion was over 3,000 ft. It is at least safe to say that each exceeded half an English mile.

"From the time and the distance it will be noticed that the velocity was between 20 and 30 miles an hour, in a course which was taking it constantly 'uphill.' I may add that on a previous occasion I have seen a higher velocity attained by the same model when its course was horizontal. I have no desire to enter into detail further than I have done, but I cannot but add that it seems to me that no one who was present on this interesting occasion could have failed to recognise that the practicability of mechanical flight had been demonstrated.

"ALEXANDER GRAHAM BELL."

Not long after the May experiments Dr. Langley went abroad for needed rest and recreation, and in the autumn [i.e. of 1896], after his return, further experiments were tried. On November 28th a flight was made which was three-quarters of a mile in length, the time occupied being precisely one minute and three-quarters. Mr. Frank G. Carpenter was a fortunate witness of this, the longest flight made, and with Dr. Langley's approval he wrote a detailed account of it for the *Washington Star* of December 12th, 1896.

Model No. 5 (1896).

"Professor Langley had two successful engined models, No. 5 and No. 6; the former made the flights of May 6th and the latter of November 28th. The weight of No. 5, with fuel and water sufficient for the flights described, was about 30 pounds. The weight of the engine and boiler together was about 7 pounds. The power of the engine under full steam was rather more than 1 horsepower. There were two cylinders, each having a diameter of 1/4 ins. The piston stroke was 2 ins. The two propellers were 39 ins. from tip to tip, and revolved in opposite directions; the pitch was 1.5; they were connected to the engines by bevel gears most carefully made, the shafts and gears being so arranged that the synchronous movement of the two propellers was assured.

"The boiler was a coil of copper tubing [steel tubing would, of course, have been much better]; the diameter of the coil, externally, was 3 ins.; the external diameter of the tubing 1/2 of an inch.; the pressure of the steam when the model was in flight varied from 110 to 150 lbs. to the square inch. The flame was produced by the 'aelopile,' a modification of the naphtha 'blow torch' used by plumbers; the heat of such a flame is about 2,000° F. Four pounds of water were carried at starting and about 10 ounces of naphtha. In action the boiler evaporated about 1 pound of water per minute. The flights could have been greatly lengthened by adding a condenser and using the water over and over again, but the time for that will come later."

A few further facts are: the boiler with its firegrate weighed a little over 5 lbs. Total weight of engine (including moving parts) 26 ozs. There was a special pump keeping the water circulating rapidly through the boiler, the intense heat converting some of it into steam as it flowed. [This last statement appears wrongly expressed, the water would not "circulate" in the coils exactly, but be injected or forced in from the reservoir in minute quantities where it would be instantly "flashed" into steam

superheated and sent into the engines.] The propellers revolved from 800 to 1,000 a minute. The entire model was 15 ft. in length, the wings from tip to tip being about 14 ft. It should be noted that of the total weight, one-fourth, about, was contained in the machinery or power-plant, and that the engine, generator, &c., work out at about 7 lb. per horse-power. Great advance has, of course, been made since the above narrated experiments were carried out, practically some 19 years ago, both in the construction of light and powerful steam engines (to say nothing of the internal combustion engine), and in the designing of model aeroplanes. All this, however, only serves to make Professor Langley's achievements the more remarkable, and they should serve as a most powerful stimulus to all aeromodellists to emulate his example of patient doggedness. Whatever cannot be shown to be scientifically "impossible," must be scientifically "possible," and it is only a question of repeated effort to attain a final and a lasting success.

Model Aeroplane Firms at the Agricultural Hall.

At the recent Toy Fair and Market held at the Royal Agricultural Hall, London, March 16th to 26th, under the auspices of the International Trade Exhibitions, Ltd., only two British firms were represented, viz., the "Birmac" Aeroplane Co., 124, West Green Road, Tottenham, N., and Messrs. C. E. Richardson and Co., Sheffield, who showed a number of "Finbat" specialities, of which model aeroplanes and kites were only a section. It thus appears that the "Birmac" Aeroplane Co., which showed no other specialities, was the only firm which had a stand devoted entirely to model aeroplane and aeroplane accessories. The head of the company is Mr. James McBirnie, whose models have been awarded twelve first prizes in open competitions. They are easily distinguished by the special green-coloured silk used for covering the planes, &c.

This same company claim to have sold over 800 models in one week at the last Royal Aero Show at Olympia.

The excellent flying qualities of these models are well known, and have been often acknowledged, from the Premier's son downwards. The latest model to be placed on the market by the firm is a twin-cylinder rotary-type compressed-air engined model.

Whilst congratulating the above firm on its enterprise, one can only ask, why were not more firms represented? Some of them, we believe, were unaware there was an exhibition on. This isn't the way to capture the German trade. From March 14th to 24th, 1916, will be held the greatest Trade market ever held in Great Britain. It will take place at the Royal Agricultural Hall and Olympia, and such additional exhibition buildings as may be necessary. Will British model aeroplane firms and others kindly note, and get ready to fill up a few of those "additional necessary buildings," and not let foreign competitors do it instead?

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AFFILIATED MODEL CLUBS DIARY AND REPORTS.

Club reports of chief work done will be published monthly for the future. Secretaries' reports, to be included, must reach the Editor on the last Monday in each month.

N.E. London Model A.C. (47, JENNER RD, STOKE NEWINGTON, N.)

Monthly Report.—Club meets during the past three months, though somewhat limited by inclement weather, have shown great improvement in the representative flying; special mention may be made of Messrs. P. Cowdroy, Graham and Kendall. It is interesting to note that our treasurer Mr. F. Burton has raised the club duration record to 130 secs. Longstaffe has been engaged on C.A. models fitted with an M.S.C. engine and container, and may be seen occupied with frantic pumping on most Saturday afternoons. The secretary will be glad to hear from prospective members; particulars will be forwarded on application to above address.

Paddington and Districts (77, SWINDEBY ROAD, WEMBLEY).

Monthly Report.—The weather during the past month has not induced many members to bring out their models. On March 13th, W. E. Evans out testing twin-screw pusher canard monoplane. The fuselage of this model is so constructed that the main plane and the elevator may be set at any desired angles of incidence, the objects of experimentation being to note the power absorbed by the various angles, the rate of climbing, stability, and the gliding angles. The model flew well after a few preliminary trials, maintaining a fairly straight course every time. On March 20th, Carter, Evans, and Woolley out testing manufacturer's models. These consisted of one small single screw pusher canard monoplane, one small tractor monoplane, a larger tractor monoplane, and a tractor biplane. Necessary adjustments were made to some of the models, and improvements suggested with others. Result—some useful work and a capital afternoon's sport. On the 27th, Carter and Woolley flying twin pushers, but a cold north-east wind and snow showers curtailed the amount of work done. The committee hope that all members will join in the two research competitions

